

Summary of Besser’s application to the Great Lakes Fishery Trust for Fisheries Heritage Display funding

An application for Great Lakes Stewardship Program funding was submitted by Besser Museum for NE Michigan on January 2, 2017. The grant application deadline was February 4. Turn-around on Great Lakes Fisheries Trust applications is pretty quick: we expect to find out whether we are funded and the amount awarded by mid-March.

Briefly, we requested \$178,487 from the Trust and show \$218,963 in matching funds. Matching funds are those raised locally by the applicant. There is no required local match, but a grant application’s chances for success are much higher where sizable matching funding can be shown – this demonstrates the degree of partnership the Trust is leveraging with their participation. The sizable match we were able to show is thanks to the hard work of the *Katherine V* committee in fundraising and in soliciting volunteer assistance and also from the DNR’s contribution of the *RV Chinook* and their moving and shrink-wrapping the *Chinook*.

Of key importance to this project is our proposed staffing of a full-time, two-year duration, exhibit coordinator plus student video interns for helping with video compilation and editing. The Coordinator would be under the supervision of Besser administration and the interns would be overseen by John Schmit at Grand Valley State University.

This grant’s focus is on education, but it also directs funding to other audiences (tourists and visitors from the local area). If awarded, this grant will help Besser with interpretation and signage, video development, video and data sharing with schools, design and landscaping of the *Chinook*’s final location, and design of the housing of the *Chinook* housing and our outdoor media center. Grand Valley State University is partnering with Besser to produce short videos tailored to classrooms based upon the documentary “Lake Invaders, the Fight for Lake Huron”. The grant would also fund Besser’s purchase of a high-definition video camera and accessories for recording oral histories and for updating portions of the Lake Invaders footage.

For those interested in all the details, a copy of the application and budget summary are below.

Grant Application – Great Lakes Fishery Trust

Requested Amount

\$178,487

Match Amount

\$218,963

Project Start Date

04/01/2017

Project End Date

04/01/2019

Has your organization proposed this same project to the GLFT in the past?

No

Project Narrative

1) Project Summary

We will build a comprehensive Great Lakes Fisheries Heritage exhibit unparalleled in Michigan. The exhibit represents NE Michigan's fishery heritage spanning from pre-Columbian to present; a heritage largely shared by all regions of Michigan. Great Lakes stewardship will be evident in the integration of subsistence, commercial and recreational fisheries with scientific research, ecosystem changes wrought by invasive species, water quality, habitat degradation, and effects of fishery management.

Two early fishing/survey vessels will anchor the display.

2) Project Goal

This project will engage schools and community, fisheries stakeholders and visiting tourists alike in our Great Lakes fisheries science and heritage. The Fisheries Heritage exhibit will raise awareness of Great Lakes fisheries in the shaping of pre- and post-Columbian cultures and, conversely, the effects of modern developments on the health and sustainability of Great Lakes fisheries. This fisheries heritage exhibit will be at Besser Museum, where artifacts of pre-Columbian habitation and fishing, 20th Century recreational fishing, and mounted fish of the Great Lakes are on display or archived.

The core of the displays will be two early-mid 20th Century fishing boats: one a retired research vessel and the other an 88-year-old wooden gillnet tug. The Research Vessel Chinook was built for the Michigan Department of Conservation in 1947 and was retired and donated to Besser in 2016 (<http://www.bessermuseum.org/chinook>). The Besser Museum also displays one of the oldest of the remaining Great Lakes commercial gillnetting vessels, the Katherine V, built in 1928 by Native American builders. The Katherine V (<http://www.bessermuseum.org/katherine-v>) will tell the story of the early 20th century commercial fishery of the Great Lakes. The emergence of one of the world's most important recreational fisheries during the RV Chinook's career with the DNR will also be told.

The hour-long documentary "Lake Invaders, the Fight for Lake Huron" (<http://www.lakeinvaders.com/Trailer.html>) recounts the litany of invasive species that have disrupted Great Lakes aquatic ecosystems while following the RV Chinook and her crew through a year of her monitoring work on Lake Huron. The film also documents the economic devastation to Lake Huron's coastal communities from the collapse of Chinook salmon in 2002-2004. We envision, as visitors tour the RV Chinook, LCD displays showing what it was like to be aboard RV Chinook during the year the documentary was filmed. We propose to use student interns (both college and high school) to review the hour-long documentary along with the raw video footage and produce shorter presentations for viewing at the Museum and in classrooms.

The project will be pursued in two phases:

Phase 1 is principally a construction phase; most of Phase 2 will engage fisheries science agencies, schools and educators, youth leaders and community partners in exhibit development, signage and interpretation, and further facility development. We will be addressing the following goals:

Goal 1: Design and landscape the location. Build footings and cradle for the RV Chinook, with dock-like boardwalk that connects the Chinook with the Katherine V (Phase 1). Build small-scale replicas of fish and ice houses and net sheds for replica commercial ‘fishing village’; and design attractive housing and ‘science enclave’ for the Chinook and interpretative media (Phase 2).

Three advisory panels (agencies, educators, and youth) will be engaged as partners to guide the design and development of these fisheries heritage exhibits.

Outcome: Two early-mid 20th Century fishing vessels displayed in a uniquely immersive setting depicting the Thunder Bay River mouth fishing wharfs.

Goal 2: Represent the fisheries and the importance of fishing for three periods: 1) pre-Columbian; 2) settlement to mid-20th Century; and 3) modern, using displays of artifacts and other features from the three periods (Phase 1).

Outcomes: Besser’s Native American culture artifacts as evidence of pre-Columbian fishing (fish spines/bones and fishing artifacts) and where it seemed to focus (maps of encampment/fishing sites, photos). Displays of early 20th century commercial fishing gear and the fish tug Katherine V; oral, written, and video documentation of mid-20th century and modern fishing; exhibits interpreting Great Lakes science and management, and modern commercial and recreational fishing gear.

Goal 3: Tell the stories of: 1) rising commercial gear efficiency and effort and implications to sustainability of fisheries; 2) management methods used by agencies to better achieve sustainability; and 3) critical Great Lakes issues, accentuated by the rise of invasive species, avenues of invasion, and their effects on Great Lakes fisheries (Phase 2).

Outcomes: Engaging displays of fishing vessels and gear from the three fishing periods; links to literature and educational resources on history and evolution of Great Lakes fisheries connecting past, present, and future; description of disruptive effects of invasive species on fish and fisheries.

Goal 4: Provide educational resources, lesson plans, field trips, and place-based education experiences that augment K-12 school learning and adult education goals, locally in Northeast Michigan and statewide (both Phase 1 and 2). This goal is coordinated with local Northeast Michigan Great Lakes Stewardship Initiative (regional place-based education partnership) and statewide Great Lakes Fisheries Heritage Trail (fisheries heritage partners with stated educational goals).

Outcomes: Data sets from Great Lakes assessments and research, links to literature and educational resources, and connections with curricula, suggested lessons and project ideas for teachers. Fisheries data and library materials to be made available for use by K-12 students in coordination with Michigan Sea Grant’s “Teaching Great Lakes Science” website.

3) Geographic Focus Area

The Besser Museum (<http://www.bessermuseum.org/about-us-cknw>) is uniquely located to serve the counties of Northeast Michigan and is thus ideally suited for interpreting the region’s fisheries heritage. Alpena and the Thunder Bay area are the center of L. Huron’s whitefish harvest. The lower Thunder Bay

River was a key fishing ground shared by both the Treaty of 1819 (Saginaw) and Treaty of 1836 (Washington) tribes. Treaty boundary lines follow the Thunder Bay River, suggesting the river's importance to both Native communities. Some more popular recreational fishing ports are along the shores of Northeast Michigan. Alpena is also a science, research, and management hub where DNR and Fish and Wildlife Service Lake Huron fishery offices are located, as are offices of Michigan Sea Grant and NOAA Thunder Bay National Marine Sanctuary. The MSU Dept. of Fisheries & Wildlife streamside research facility for Lake Sturgeon and the USGS Hammond Bay Biological Station are located within 50 miles of Besser Museum. Besser Museum has made significant investments into the display of the Katherine V, Native American artifacts, mounts of Great Lakes fish, and the evolution of recreational fishing gear.

Besser Museum belongs to the Great Lakes Fisheries Heritage Trail network. This statewide network offers opportunity to coordinate interpretive resources, educational opportunities, and heritage-based tourism development initiatives promoting our valuable Great Lakes fisheries - past, present, and future. This project will build upon these existing exhibits, relationships and expertise, and benefit a wide variety of local and statewide audiences.

4) Relationship to Ongoing Activities

This project will build upon Besser's current Great Lakes Fisheries Heritage projects and programming. Michigan is rich in maritime heritage; yet the importance of Great Lakes fisheries as part of our maritime heritage landscape is often untold. Moreover, there is a lack of public understanding about the variety of Great Lakes research and management institutions, including their diverse roles and responsibilities at local, state, federal and even international levels.

We propose to partner with fisheries agencies to help them convey their organizational missions, research and management roles, and key projects or informational findings to public audiences, particularly targeting K-12 students and visitors to the Besser Museum.

This outreach program will be unique to Northeast Michigan and not duplicate any other programs in the service area; and will be strategically coordinated to enhance educational programming of the many fisheries research and management institutes centered around Alpena, nearly all of which have state education goals within their mission. Through the Northeast Michigan Great Lakes Stewardship Initiative (NEMIGLSI), we have identified more than ten area schools currently engaged in some level of fisheries education programming. These range from DNR Salmon in the Classroom projects to in-depth place-based education efforts, such as with students from Alpena High School Shipwreck Alley class who are engaged in projects with the Besser Museum fisheries heritage committee. These NEMIGLSI schools, educators, and youth will be engaged as contributors to (and beneficiaries of) this project.

In addition, the Besser Museum will coordinate with the Great Lakes Fisheries Heritage trail network to reach a statewide audience for this project. This project capitalizes on and adds value to current statewide fisheries heritage preservation, education, and tourism-related efforts across coastal communities and museum partners of Michigan.

5) Partnerships and Collaboration

Besser Museum is a member of the Great Lakes Fishery Heritage Trails network. We will coordinate with this statewide network to learn (and share) research findings, methods of display, and interpretation, and to avoid duplication of effort.

The DNR donated the RV Chinook plus a variety of assessment fishing gear, and they will assist in providing Great Lakes assessment data, research data, and fisheries interpretative information for exhibits.

Science Partner Collaborations: This exhibit will enhance outreach for DNR, FWS, NOAA, USGS Great Lakes Science Center, and GLFC, helping to disseminate their heritage stories and Great Lakes science and management findings. We will enlist the USGS Hammond Bay Biological Station, DNR, and GLFC staff in design and presentation about sea lamprey damages, control, and benefits of control to lake trout.

We will seek to partner with Native American tribes in interpretation of pre-European-settlement fishing, the importance of fishing to their cultures, and the status of modern Native fisheries. We will partner with th DNR in portraying trends in State-licensed commercial fishing and current status of their fisheries.

Michigan Sea Grant will help facilitate a ‘science partner advisory committee’ among these agencies to coordinate knowledge, resources and support for exhibit design; Sea Grant will leverage existing resources and publications such as *The Life of the Lakes: A Guide to the Great Lakes Fishery* to assist the Museum in designing educational interpretation.

School, Educator Collaborations: This project will coordinate with the GLFT-supported Northeast Michigan Great Lakes Stewardship Initiative regional place-based education partnership in order to connect schools, educators, and youth as highly engaged partners (and beneficiaries) in development of this project. NEMIGLSI currently supports several schools and community partners coordinating regionally on fisheries education opportunities.

These partners cross-connect a variety of educational programming such as DNR's Salmon in the Classroom, Sturgeon in Classroom, with agencies, interest groups, and learning opportunities, such as Sturgeon for Tomorrow, universities, and state/federal agency projects and experiences, 4-H Project FISH, and Michigan Sea Grant educational tools.

An established ‘school-educator advisory’ group will contribute to exhibit design and development and ensure the final exhibit will prove valuable to a wide variety of education partners and projects. This committee will guide the development of learning tools for K-12 students and teachers. As the Fisheries Heritage exhibit moves toward completion, this project will support student field trips to the Besser Museum – piloting exhibits and educational programming with youth audience feedback.

Youth Voices through Place-Based Education Partnerships: Youth will have voice in design and development of this exhibit. Besser Museum, a partner to the NEMIGLSI network, has a proven history of engaging and honoring youth voice in their exhibits, including the student-inspired fossil park that interprets the region’s geology through Devonian Era sea life fossils, connecting this ancient seabed to current-day limestone mining of the region. Students of Alpena High School’s Shipwreck Alley class have contributed as youth leaders on the Katherine V restoration committee, most notably helping to collect oral histories from local commercial fisherman.

6) Link to Michigan's Education Reform Efforts

The K-12 education focus of this project will foster a better-informed citizenry that is more aware of and more effectively engaged in future stewardship of the Great Lakes. This effort aligns with NOAA Great Lakes Literacy Principles supported through Sea Grant Center for Great Lakes Literacy, a partner in this project. This project will build relationships with teachers, schools, and classrooms, nurture a better understanding of Great Lakes ecosystems and ecological issues, and build foundations that enable citizens to practice better stewardship of the Great Lakes and their watersheds. This project will be coordinated

with school-community partners through our local Great Lakes Stewardship Initiative network, embracing place-based stewardship education (PBSE) principles adopted by the State GLSI network within our instructional strategies. Adopting a PBSE process with schools will allow us to better support the variety of ongoing fisheries education efforts (e.g. Salmon in Classroom) led by educators, while enhancing and addressing connections with new Michigan Science Standards. Any curricula or supporting lessons leveraged or newly developed will be reviewed and vetted by our ‘educator advisory’ committee ensuring our project reflects grade-appropriate opportunities, supports and adds values to current fisheries education efforts in schools, and speaks to local and State educational standards.

Finally, we believe immersing students in these Great Lakes science experiences, including the chance to work with Great Lakes assessment data, offers tremendous environmental-STEM educational opportunities –applying science, technology, engineering and math in exploring Great Lakes fisheries research, management, and careers (often alongside science agency partners of this project).

7) Communicating Results

The Fisheries Heritage Project will reach three types of audiences: students and educators, tourists, and citizens of the Northeast Michigan service area. Our three core advisory committees – fisheries science, school and educators, and youth leaders - reflect strategic partnerships that will be leveraged in communicating outcomes and opportunities. We will engage education audiences using three avenues: 1) Museum visitation, (including over 2,000 student visits per year) using the Fisheries Heritage exhibits; 2) by using the Besser Museum web page for distribution of information, and 3) via classrooms and the educational tools we distribute. Our experience in developing the Fisheries Heritage Project will be shared throughout the Fisheries Heritage network via our web page, communications between Heritage Trail centers, and at annual Great Lakes Fisheries Heritage Trail network conferences (Besser hosted the 2016 Conference). The Northeast Michigan Great Lakes Stewardship Initiative network will publish the educational opportunities and outcomes, including development of a place-based education project case study that showcases the student learning and leadership resulting from this project. More broadly, Michigan Sea Grant will support dissemination of educational resources and opportunities, such as via “Teaching Great Lakes Science” website and Center for Great Lakes Literacy teacher workshops. Besser is a designated Great Lakes Fisheries Heritage Trail site and is a well- known destination for local citizens and tourists. We will use Besser’s strategic location and partnerships to reach a wide audience, including tourists, students, educators, and citizens of our local, Northeast Michigan service area.

8) Evaluating Results

We will confer repeatedly with our three groups of advisory partners engaging in formative assessments of exhibit design. Students will have voice on the front end of design and throughout development, as will educators in design of supporting lessons or resources; and (Phase 2), funding will be used to support educator advisors in bringing their students on field trips to pilot and test exhibits with targeted student audiences. We will utilize established qualitative and quantitative student assessments developed by GLSI network, such as pre-/post-surveys or embedded assessments to gauge how this project supports school place-based education efforts. We also plan to use GLSI-developed Great Lakes content survey to better connect student learning with Great Lakes Literacy project goals.

Educators will continually advise the Museum on classroom needs and evaluate the Museum’s products and displays. To evaluate the use of our resources by educators, we will keep track of number of tool uses (videos, data sets, lesson suggestions) and student visits to the Museum. We will document case studies of classroom use of our information, class suggestions, and tools.

For more community-oriented audiences, we will engage other museum leaders from around the state GLFH network to visit, tour, and critique our displays.

Museum visitation is a metric that Besser uses to evaluate results of many initiatives and will likewise be valuable in assessing the interest generated by the Fisheries Heritage Project. We will give particular attention to number of student visits and attendance at events that feature the Fishery Heritage Project.

9) Sustainability Plan

Besser Museum boasts fifty-years of excellence in stewardship and sustainability of current exhibits. The Museum is accredited by the American Alliance of Museums and maintains a culture of fostering partnerships and connecting community in exhibit design, development, and sustainability strategies. The Fisheries Heritage Committee is community-led. For the past three years, the Katherine V exhibit committee has provided leadership from fundraising and by recruiting and contributing thousands of volunteer hours in restoration efforts. The Museum is wholly committed to place-based education strategies in partnership with the NEMIGLSI network, where youth play a key role in exhibit design, development, and long-term sustainability.

Besser Museum has successfully incorporated youth voice in development of several current exhibits. Youth engagement has resulted in youth contributing pivotal leadership roles inspiring Katherine V restoration efforts, along with development of the fossil park and Alpena Flyer (automotive) exhibits. The Museum is committed that youth will have an equally important learning and leadership role in expanding and sustaining this project in partnership with local community partners.

Additionally, the Besser Museum is an active partner in the state Great Lakes Fisheries Heritage Trails network. By design, Besser Museum helped to foster this network to better coordinate, share, and enhance fisheries heritage interpretation, educational resource sharing, and community tourism connections. This state network of partners will both inform and benefit from this project; the collective expertise, resources and relationships of this network will help ensure visibility, value and usage, and sustainability of this project among both local and statewide audiences.

10) Cost Effectiveness

GLFT investment in this project will be leveraged in several, very significant ways. GLFT funding will complement Katherine V project local fund-raising efforts, work hours donated by volunteers and Museum staff, and time and material donated by local industry and businesses.

The GLFT investment in this project will be protected and perpetuated into the future by virtue of the Museum's professional curators and maintenance staff.

The Katherine V represents a donation by the Vogelheim family of Rogers City. The physical display of the Katherine V and her ca. 1927 Kahlenberg engine will be completed this winter at the cost of 3,275 hours of volunteer labor. The Kahlenberg diesel engine was recently rebuilt by Dave Robertson (<http://www.bessermuseum.org/katherine-v>) an exceptionally talented diesel mechanic who collects and restores vintage engines. We anticipate a significant amount of interpretative work will be completed for the Katherine V during early 2017.

The RV Chinook is a contributed asset from the DNR. The data sets to be used for educational projects will be made available by the DNR and other resource agencies.

The film "Lake Invaders, the Fight for Lake Huron", including all video assets from the filming project, is being made available by Grand Valley State University.

The Besser Museum and grounds serve as both indoor and outdoor display and interpretative areas and the Besser facilities and staff are available to permanently serve the Fishery Heritage Project and needs of the public. The Besser Museum's collections of recreational and commercial fishing gear, mounts of Great Lakes native, introduced, and invasive species, and native American artifacts are critical attributes of the Besser Fisheries Heritage Project. Through the NEMIGLSI educational network, the Besser Museum has secured partnership commitments from schools and educator advisors identified in this project proposal.

We will utilize established tools and programs developed by GLSI network to better serve students and offer place-based education opportunities. Besser's membership in the Great Lakes Fisheries Heritage Consortium allows this project to tap into the Consortium's knowledge, experience, and outreach tools. The "umbrella" of the Besser Museum assures that the Fisheries Heritage Project will continue to be well served long after the funding period for the GLFT portion of the project.

Additionally, acknowledgement of the contributions of the GLFT will be included prominently in displays developed using GLFT funds.

To assure that the capitol assets of the Fisheries Heritage Display are properly maintained and cared for, the Besser Museum will include these assets in its upcoming Museum Facility Maintenance Plan. The Besser Museum also has permanent maintenance staff with considerable experience in maintenance of Museum grounds and assets.

11) Permits/Authorization

Building permits for landscaping and development of the RV Chinook display will be applied for in early 2017. The City of Alpena has surveyed the proposed site and marked locations of its easements, which will expedite the permit application process.

Through the NEMIGLSI educational network, the Besser Museum has secured partnership commitments from schools and educator advisors identified in this project proposal. These schools have established Memorandums of Partnership and proven participation partnership reputations with the NEMIGLSI network.

In January 2016, the Besser Museum met with a group of fisheries-interested educators that convened to better coordinate among themselves; additionally, collaboration with the Besser Museum's Fisheries Heritage programming as a community partner (and project) was discussed in detail by this group. Partnership in this project was identified as a shared interest, with value and opportunity for this group. More specifically, John Caplis (educator facilitating Alpena H.S. Shipwreck Alley students) has written a formal letter of support, committing his class as partners in the collective Fisheries Heritage education efforts at the Besser Museum.

12) Applicant Capacity

Besser Museum staff (<http://www.bessermuseum.org/staff>) and trained volunteers bring experience and dedication that will assure this project is completed.

Executive Director, Christine Witulski holds a BA in Education and served as the Museum's Education Director before taking the executive director position. Chris is a founding member of the Great Lakes Fisheries Heritage Trail network.

Board of Trustees member, Janet Young chairs the Education Committee. Janet is a retired teacher, published author, and recently certified interpretative guide through the National Association of Interpretation.

Board Member Jim Johnson, who for 25 years lead the DNR's Alpena Fishery Research Station, supervised operations of RV Chinook.

Board Member Clarence Cross was a commercial fisherman during the 1950s -60s and served as Captain of the RV Chinook while an employee of the DNR. Mr. Cross authored a book on the commercial fisheries of northeast Michigan (<https://www.amazon.com/History-Commercial-Fishing-Clarence-Bonnie/dp/1603072764>) and is leading the restoration of the Katherine V.

John Schmit, Associate Professor of Film and Video Production at Grand Valley State University, will lead interpretative video productions.

Brandon Schroeder, another project partner, is the Sea Grant Extension Educator for NE Michigan (<http://www.miseagrant.umich.edu/people/brandon-schroeder>). Brandon will facilitate project connections with the local NEMIGLSI, the Fisheries Heritage Trail, and regional Center for Great Lakes Literacy networks and will bring Michigan Sea Grant educational asserts and tools to the project.

The Community Foundation for Northeast Michigan is the fiduciary agent for Besser's projects, assessing a cost of 1.35% for this service. The Foundation manages \$37 million in assets.

Project Budget

See the Detailed Project Budget below.

Budget Narrative

We are seeking a two-year project, to be conducted in two phases: Phase 1 will be focused upon infrastructure; Phase 2 will see completion of infrastructure, but primarily be focused on interpretation and educational elements.

Salaries: The Project Coordinator will oversee the daily activities and development of the Fisheries Heritage Display, recruit volunteers, lead the design and development of displays, give interpretative tours, and coordinate activities of all participants: - Outreach to local governments and educators on the project and its experiential learning opportunities - Implementation of grant-enabled activities - Coordination with agency and educator partners - Help facilitate educational, agency, and youth panels - Design and development of outreach and educational materials – Reporting and administration of the GLFT grant. The video project intern will be a student in the film and video program at Grand Valley State University. This intern will be under the supervision of John Schmit, a documentary film maker and adjunct faculty member at Grand Valley State University who directed the film “Lake Invaders...”. The fringe rate is 26.3% and was used for all personnel.

Supplies and materials:

We will use a combination of electronic and fixed signage for interpretation and telling the Fisheries Heritage story. Video will be developed largely by the video intern under the leadership of Assoc. Prof. John Schmit.

Michigan Sea Grant, the advisory panels, and cooperating agencies will guide the process of developing video and signage messages. The overall message of the interpretative project will be assisted by resource agency representatives, Besser Museum Staff, Jim Johnson, retired manager of the DNR's Alpena Fishery Research Station, and Clarence Cross, retired captain of the RV Chinook.

Educational tools:

We will defray field trip costs for approximately ten K-12 classes during the second year of the project at a cost of \$500 per class (busing, educational resources, and other field trip expenses).

Our educator advisory panel will be used to help interpret the display for students, develop lesson plans, and critically review the educational elements of the Fisheries Heritage Display during its development. Costs shown are for substitute teachers needed to free the educator panel members for their participation and provide supplemental supporting resources for their edification and review.

Project funds for the Youth Advisory (Alpena H.S. Shipwreck Alley class) will be used to support deeper student involvement in exhibit design and student-led projects contributing to project completion.

The electronic media hardware will be for displaying video of Great Lakes assessment and commercial fishing, interviews, film segments from "Lake Invaders...", and slide shows. The LCD screens, CD players, and speakers will be placed aboard the two vessels and in-door the fisheries area of the Museum.

The hard drives are needed for editing, storing, and making copies of high-resolution video and for serving them to Museum and GVSU staff and students.

The high resolution camera will be chiefly used for recording interviews, but also for updating and adding local video to the "Lake Invaders" video project.

The hardware for the "dock and fishing village" will be for lumber and materials for assembling this feature.

Contractual services: Landscaping is required to bring the docks to the elevation of the Chinook's deck, to level the Chinook's resting place, assure proper drainage, and to contour the area for ADA accessibility.

The cradle will be permanent, built of iron, and capable of supporting the Chinook's 24 tons.

We anticipate much deliberation and input from the advisory panels before we can move toward the engineering of a permanent housing for the Chinook and our interpretative media. The housing will be necessary to protect the electronics and media hardware as well as the wooden cabin of the Chinook. Construction of the housing structure will probably not take place until 2019 and the cost of that structure will not be known until the engineering has been completed in Phase 2 of this project.

Overhead: The Community Foundation for Northeast Michigan will be our fiduciary agent. Though a long-standing agreement with Besser, the Foundation assesses the Museum's special projects a service fee of 1.35%.

Matching and in-kind funding estimates were based upon the estimated value of the donated vessels, funds contributed during Katherine V fundraising campaigns, and actual hours and materials contributed by the DNR, volunteers, and museum staff. All of these costs have been secured/realized except for the estimated year-2 costs, which represent estimated volunteer hours and expenditures for that year.

| Expense category | GLFT Funds | Matching funds | Source of match | Total project cos |
|---|---------------------|---------------------|---------------------------------|---------------------|
| Salaries and personnel services | \$59,400.00 | \$28,500.00 | | \$87,900.00 |
| Project coordinator | \$54,400.00 | \$0.00 | | \$54,400.00 |
| Video project intern | \$4,000.00 | \$0.00 | | \$4,000.00 |
| Video project supervisor (GVSU) | | \$4,500.00 | Grand Valley State University | \$4,500.00 |
| Museum administration | \$0.00 | \$8,000.00 | | \$8,000.00 |
| Museum staff | \$0.00 | \$12,000.00 | | \$12,000.00 |
| Clerical and accounting | \$0.00 | \$4,000.00 | | \$4,000.00 |
| Compensation for educator panelists | \$1,000.00 | \$0.00 | | \$1,000.00 |
| | | | | |
| Benefits | \$15,359.20 | \$7,495.50 | | \$22,854.70 |
| Project coordinator | \$14,307.20 | \$0.00 | | \$14,307.20 |
| Video project intern | \$1,052.00 | \$0.00 | | \$1,052.00 |
| Video project supervisor (GVSU) | \$0.00 | \$1,183.50 | | |
| Museum administration | \$0.00 | \$2,104.00 | | \$2,104.00 |
| Museum staff | \$0.00 | \$3,156.00 | | \$3,156.00 |
| Clerical and accounting | \$0.00 | \$1,052.00 | | \$1,052.00 |
| | | | | |
| Supplies and materials | \$15,000.00 | \$169,467.00 | | \$184,467.00 |
| Signage materials | \$11,000.00 | \$3,000.00 | | \$14,000.00 |
| RV Chinook | \$0.00 | \$50,000.00 | Michigan DNR Fisheries Division | \$50,000.00 |
| <i>Katherine V restoration and display:</i> | | | | \$0.00 |
| Contributions and fundraisers | \$0.00 | \$40,967.00 | | |
| Contributed cost of crane & truck to move boat from Rogers City & engine to shop in Hillman | \$0.00 | \$10,000.00 | | |
| Contributed time of volunteers | \$0.00 | \$42,500.00 | | |
| Contributed construction of shelter for boat | \$0.00 | \$10,000.00 | | |
| Kath. V's Kahlenberg diesel engine restoration | \$0.00 | \$13,000.00 | | \$13,000.00 |
| Hardware and electrical/plumbing supplies | \$4,000.00 | \$0.00 | | \$4,000.00 |
| | | | | |
| Educational tools | \$23,350.00 | \$13,500.00 | | \$36,850.00 |
| Field trips (10 classes @\$500) | \$5,000.00 | \$0.00 | | \$5,000.00 |
| Educator Advisory Panel and training | \$2,000.00 | \$1,000.00 | | \$3,000.00 |
| Science partner Advisory Panel | \$0.00 | \$1,500.00 | | \$1,500.00 |
| Youth Advisory Place-Based Education (Shipwreck Alley) Advisory Panel | \$4,000.00 | \$5,000.00 | Teacher training, Sea Grant | \$9,000.00 |
| (3) 42" LCD Video Displays | \$2,000.00 | \$0.00 | | \$2,000.00 |
| Video server (1) | \$800.00 | \$0.00 | | \$800.00 |
| (3 pair) Audio Speakers | \$1,200.00 | \$0.00 | | \$1,200.00 |
| (4) Hard Drives for video production | \$500.00 | \$0.00 | | \$500.00 |
| High definition video camera and microphone | \$850.00 | \$0.00 | | |
| Other video supplies and media | \$3,000.00 | \$0.00 | | \$3,000.00 |
| Dock and "fishing village" materials | \$4,000.00 | \$6,000.00 | | \$10,000.00 |
| | | | | |
| Contract services | \$65,377.47 | \$0.00 | | \$65,377.47 |
| Landscape survey and engineering | \$3,000.00 | \$0.00 | | \$3,000.00 |
| Landscaping and cradle foundation | \$20,000.00 | \$0.00 | | \$20,000.00 |
| Cradle engineering and construction | \$15,000.00 | \$0.00 | | \$15,000.00 |
| Crane for moving RV Chinook | \$2,500.00 | \$0.00 | | \$2,500.00 |
| Community Foundation for NE Michigan | \$2,377.47 | \$0.00 | | \$2,377.47 |
| Plan/engineer housing for <i>Chinook</i> and science display/media | \$20,000.00 | \$0.00 | | \$20,000.00 |
| Wiring and plumbing to vessel/science display ar | \$2,500.00 | \$0.00 | | |
| | | | | |
| Totals | \$178,486.67 | \$218,962.50 | | \$397,449.17 |